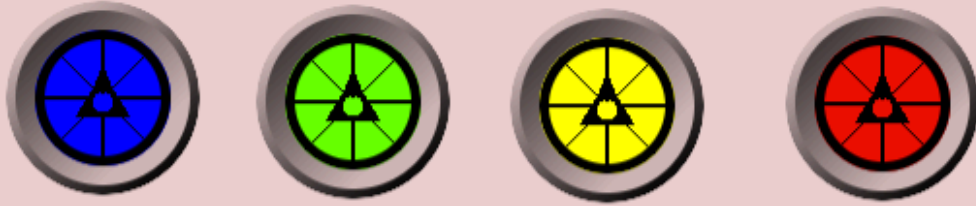


Finch Manual



Farrel

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Main Screen

- Create A Program

- Load A Program

- Trace A Program

- Run A Program

- Actions (simple built-in command)

- Conditions (simple built-in conditions)

- Macros (custom program that can be used inside of another program)

Map Editor

- Create

- you create a map by using the group of button on the right side to modify the map on the left side. 1 farrell can be used in a map. If there are multiple farrells on the saved map, it will only take 1 farrell.

Tile

- Farrell

- Wall

- Moveable Blocks

- Enemies

- Spikes

- it moves diagonally

- Chompers

- it moves horizontally and vertically

- Objective Box

- Load

- it will be loaded on the left side and it can be modify by selecting from the group of buttons on the right and then click on the tile that you would like to change

Run Program Window

- Pause (pause the program at that point)

- Stop (terminate the program at that point)

Commands

- Writing a sample program

Macros

- Create (write it like a regular program and click save as method)

- Use (choose one on the right side drop down box)

- Delete

Finch Settings (physical finch)

Introduction

Farrell is an application designed to let a wide range of learners create a program that controls the behavior of a virtual (Karel) and/or real robot (Finch). The user is presented with a program-writing interface, and a separate map building interface.

Main Screen

When the application loads, the user is prompted with the option of enabling Finch or disable Finch for the duration of the session of editing.

If the user choose to disable Finch, the user will be presented with an empty program editor. If the user choose to enable Finch, the robot must be attached to the computer for the user to proceed to program studio.

Program Studio

The user can choose one of several options, either an editor task:

Create a program

Load a program

Trace a program

Run a program

Or program instructions to insert into the program:

Actions (simple built in commands)

Conditions (simple built in conditions)

Insert Macro Into Program (custom program that can be embedded within another program as a single instruction)

Or the user can choose

Create a program

User selects this option to empty the program editor and create a blank program.

Load a program

User selects this option to populate the program editor with code from a saved file. Clicking the button opens a file-choosing dialog. After user double clicks on file name or selects file name and presses "open", code from saved file is loaded into editor.

Trace a program

This option allows the user to move through code in the editor one instruction at a time, helpful when creating and debugging movement logic.

Run a program

This option allows the user to run the program without user interaction.

Actions

Actions are instructions, like move forward, turn left, and turn right.

Conditions

Conditions are control questions for decision logic, such as "is path blocked by object"?

Macros/Methods

Macros are saved lists of instructions that can be inserted into logic as single instructions. Selecting this option opens the macro editor.

The map editor allows several options:

[\[Create\]](#)

[\[Load\]](#)

[Pause]

[Stop]

Create

Discards map data in editor and opens a blank map editor.

Load

When the user selects this option a file-choose dialog is presented, allowing selection of a saved map file. Selection of a file populates editor with data from saved map.

Pause

Selecting this option temporarily pauses execution of control logic.

Stop

Selecting this option stops execution of control code for virtual and physical robots.

Run program

[Pause]

[Stop]

Pause

Selecting pause temporarily stops program execution.

Stop

Selecting stop terminates program execution, and program must be restarted from beginning.

Commands

Writing a sample program

The Macros menu allows three choices:

[Create]

[Use]

[Delete]

Create

Opens a blank program editor from which a user can create a macro in the a's,e way that a program would be created.

Use

Selecting use inserts the macro into the program editor as an instruction.

Delete

Selecting delete removes the macro from the program editor.

Error Handling

Different error conditions can happen in the duration of creating a program or creating a map. This section is created to help you diagnose the different problems that you might encounter.

Program Studio

In Program Studio

Map Editor